

Notice of Allowability

Application No.

09/399,540

Applicant(s)

IVEZIC ET AL.

Examiner

Fred Ferris

Art Unit

2128

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 13 May 2004.
2. ☒ The allowed claim(s) is/are 1, 2 and 4-12.
3. ☒ The drawings filed on 30 June 2003 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date 2-15-04
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

[Signature]
KEVIN J. TESMA
SUPERVISORY
PATENT EXAMINER

DETAILED ACTION

1. *This Office Action is in response to applicant's After Final Amendment filed on 13 May 2004. Claims 1-17 are currently pending in this application. Claims 13-17 were previously allowed. Claims 1, 2, and 4-12 have now been allowed over the prior art of record in view of applicant's amendment to the claims. Applicants have cancelled claim 3.*

EXAMINER'S AMENDMENT

2. *An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.*

Authorization for this examiner's amendment was given in a telephone interview with Brian Buchheit on July 15, 2004.

Please insert the following after the word "technique" in line 5 of claim 8:

-- , wherein the agent is responsive to a discrete event selected from the group consisting of a clock tick message, a resources received message, and a request for output production message --

Response to Arguments

3. *Applicant's arguments filed 13 May 2004 have been fully considered and found to be persuasive.*

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Regarding applicant's response to 103(a) rejections: The examiner withdraws the 103(a) rejection of claims 1-12 in view of applicant's amendment to the claims.

Allowable Subject Matter

4. Claims 1, 2, and 4-17 have been allowed over the prior art of record.

The following is a statement of reasons for the indication of allowable subject matter:

Applicants are disclosing a method for non-expert simulation of manufacturing process behavior on a single-process computer including the steps of: modeling manufacturing processes, associating distributed agents with processes, and programming distributed agents responsive to manufacturing techniques (push, pull, tact, etc.) where a discrete event triggers a programmed response. This has been disclosed in the prior art. However, applicants disclosure pertaining to a programming step comprising the step of conditioning each agent to respond to a discrete event selected from the group consisting of a clock tick message, a resources received message, and request for output production message (see: pages 12-18, Figs. 4-7) is deemed novel and non-obvious over the prior art of record. This feature, as defined in the specification, and now recited in independent claims 1 and 8 renders the claims 1, 2, and 4-12 novel and non-obvious over the prior art of record.

The closest prior art uncovered during examination is:

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1) "Modeling Supply-Chain Networks by a Multi-Agent System" F. Lin et al, Proceedings Systems Sciences, ISBN: 0-8186-8255-8, P105-114, Jan. 1998 - discloses multiple agent based manufacturing simulation model of manufacturing processes.

2) "Using Simulation to Schedule manufacturing Resources", H. Czarnecki, Proceedings of 1997 Winter Simulation Conference, ACM 1997 – discloses task time scheduling in the simulation of planning and control of manufacturing system processes.

Claims 13-17 use "means for" language and are given deference in view of *In re Donaldson* and interpreted in view of 35 U.S.C. § 112 paragraph 6. The "means for" language and the limitations related thereto of claims 13-17 are interpreted within the scope of enablement as provided within the relative embodiment provided within applicant's specification. Specifically, the following "means for" limitations are interpreted within the embodiment of applicant's specification as follows:

- Means for receiving agent manufacturing technique message: page 4, line 20 to page 6, line 7, pages 12-18, Figs. 4-7.
- Means for identifying received message as discrete event: page 6, line 15 to page 7, line 14, pages 12-18, Figs. 4-7.
- Means for causing associated process activity: page 4, line 20 to page 7, line 23, pages 12-18, Figs. 4-7.
- Means for messaging adjacent agent in response to event: page 6, lines 5-25, pages 12-18, Figs. 4-7.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

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accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

5. *Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fred Ferris whose telephone number is 703-305-9670 and whose normal working hours are 8:30am to 5:00pm Monday to Friday. Any inquiry of a general nature relating to the status of this application should be directed to the group receptionist whose telephone number is 703-305-3900.*

The Official Fax Numbers are: Official (703) 872-9306

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July 15, 2004



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